

Hedge Fund Portfolio Review through August 2015

Los Angeles • New York

Prepared for the Rhode Island State Investment Commission

September 22, 2015

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Equity Hedge Fund Portfolio

Description of Strategy

Managers investing primarily in equities making active security selection on long and short positions.

Sub-strategies:

- Equity long/short investing in equities
- Event Driven investing primarily in equities but also debt while anticipating a particular change or event to occur with a company (e.g. acquisition)

Role in the Total Fund

The equity hedge fund portfolio's role is to increase the Sharpe ratio of the total fund's equity exposure by:

- Over the long term, producing equity returns by combining some equity exposure and significant alpha generation
- Over the short/medium term, reduce the volatility of the equity portfolio by hedging the exposure

Real Return Hedge Fund Portfolio

Description of Strategy

Managers generally investing in non-equity asset classes or investing with a low net exposure (i.e. low equity beta). Exposures include both long and short positions on interest rates, credit, currency, commodities, and to a limited degree equities.

Sub-strategies:

- Credit– investing in corporate credit instruments taking both long and short positions
- Relative Value

 investing in fixed income, on a long and short basis, seeking price discrepancies of instruments with similar fixed income risk
- Macro investing across asset classes, on a long and short basis, based on fundamental or quantitative judgments
- Multi-strategy- investing across hedge fund strategies

Role in the Total Fund

The real return hedge fund portfolio's role is to increase the Sharpe ratio of the total fund and to provide an expected return with low volatility by:

- Over the long term, produce a significant return premium over the risk free rate (e.g. T-bills)
- Over the short/medium term, maintain a low beta or exposure to equity markets
- Over the long term, produce a level of volatility comparable to fixed income

Equity Hedge Portfolio

Total portfolio market value:

- \$617 million

-- 8% of total fund

Diversification

Two substrategies

- 67% Equity Long Short

- 33% Event Driven

Eight managers

- Largest 18%

Risk

Beta (ACWI)

• 0.26

Gross Exposure

• 187%

Net Exposure

• 39%

Since Inception Standard Deviation

4.08%

Equity Hedge Managers

Fund	Strategy	Market Value	Portfolio Weight	Total Fund Weight
Ascend ERSRI Fund LP	Equity Long/Short	73,278,324	12%	0.92%
ESG Cross Border Equity Fund LP	Equity Long/Short	43,516,144	7%	0.54%
PFM Diversified Fund, L.P.	Equity Long/Short	83,645,857	14%	1.05%
Samlyn Onshore Fund, L.P.	Equity Long/Short	111,691,397	18%	1.40%
Viking Global Equities, LP	Equity Long/Short	101,404,209	16%	1.27%
Davidson Kempner Institutional Partners, L.P.	Event Driven	75,517,546	12%	0.94%
Elliott Associates, L.P.	Event Driven	85,201,100	14%	1.07%
Luxor Capital Partners, LP	Event Driven	42,387,764	7%	0.53%
Total ERSRI Equity Hedge Portfolio		617,349,081		

Recent Large Long Positions

Actavis F-Trade

Marathon Petroleum Hess

Gilead Walgreens

Llumina Sanofi

Vulcan Materials JD.com

Real Return Portfolio

Total portfolio market value:

\$523 million 6% of total fund

Diversification

Four sub-strategies

- 26% Discretionary Macro
- 7% Systematic Macro
- 19% Long Short Credit
- 36% Multi Strategy
- 12% Market Neutral

Nine managers

- Largest 20%

Risk

Beta (ACWI)

.11

Gross Exposure

733%

Net Exposure

33%

Standard Deviation

2.74%

Real Return Managers

Strategy	Market Value	Portfolio Weight	Total Fund Weight
Credit Long/Short	55,393,909	11%	0.69%
Credit Long/Short	42,829,092	8%	0.54%
Global Macro Disc	80,713,581	15%	1.01%
Global Macro Disc	55,660,326	11%	0.70%
Global Macro Syst	35,776,313	7%	0.45%
Market Neutral	61,617,673	12%	0.77%
Multistrategy	86,115,594	16%	1.08%
Multistrategy	104,471,103	20%	1.31%
	523,084,496		
	Credit Long/Short Credit Long/Short Global Macro Disc Global Macro Disc Global Macro Syst Market Neutral Multistrategy	P Credit Long/Short 55,393,909 Credit Long/Short 42,829,092 Global Macro Disc 80,713,581 Global Macro Disc 55,660,326 Global Macro Syst 35,776,313 Market Neutral 61,617,673 Multistrategy 86,115,594 Multistrategy 104,471,103	P Credit Long/Short 55,393,909 11% Credit Long/Short 42,829,092 8% Global Macro Disc 80,713,581 15% Global Macro Disc 55,660,326 11% Global Macro Syst 35,776,313 7% Market Neutral 61,617,673 12% Multistrategy 86,115,594 16% Multistrategy 104,471,103 20%

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Performance as of August 31, 2015

All returns are net-of-fees and annualized, as are risk measures

Three hedge fund composites are evaluated:

Real Return Hedge Funds:

- \$523 million invested in 8 hedge funds
- Target 7% of total assets, within the 17% overall real return allocation
- Benchmarks T-bills+4%; HFRI Fund-of-Funds Index

– Equity Hedge Funds:

- \$617 million invested in 8 hedge funds
- Target 8% of total assets, within the 60% overall global equity allocation
- Benchmarks MSCI ACWI Index; HFRI Equity Hedged Index

– Combined Hedge Funds:

• Combines the Real Return and Equity Hedge Funds into one composite

Hedge Fund Portfolio Return and Risk: Inception through August 31, 2015

	ERSRI	ERSRI						
	Equity	Real	Combined					
	Hedge	Return	ERSRI	HFRI Fund of	HFRI Equity			
	Funds	Funds	Hedge	Funds Index	Hedged Index	ACWI	T-bill	Barc Agg
Total Return	7.63%	4.95%	6.40%	4.31%	5.19%	8.91%	0.06%	2.47%
Total Risk	4.08%	2.74%	3.22%	3.31%	5.90%	11.05%	0.02%	2.79%

Cliffwater 2015 Long Term Forecast of Hedge Funds Returns and Risk

Expected Sources of Hedge Fund Return and Risk July 1, 2015												
	1	2	3	4	5	6	7	8	9	10	11	
				В	eta			Alpha	Libor+Beta+Alpha			
	Model		Equity	Credit	Beta	Beta	Alpha	Alpha	Info	Total	Total	
Strategy	Weights	Libor	Beta*	Beta**	Return	Risk	Return	Risk	Ratio	Return	Risk	
Market Neutral	5%	1.60%	-0.05	0.00	-0.29%	1.10%	2.66%	3.29%	0.81	3.97%	3.47%	
Credit/Distressed	20%	1.60%	0.00	0.35	1.58%	2.80%	2.40%	3.58%	0.67	5.58%	4.54%	
Event Driven	20%	1.60%	0.20	0.15	1.85%	5.00%	3.50%	4.47%	0.78	6.95%	6.71%	
Equity Long/Short	25%	1.60%	0.40	0.10	2.79%	9.15%	4.20%	4.65%	0.90	8.59%	10.26%	
Macro-Discretionary	15%	1.60%	0.10	0.00	0.59%	2.20%	4.90%	5.72%	0.86	7.09%	6.12%	
Macro-Systematic	5%	1.60%	-0.10	0.00	-0.59%	2.20%	5.00%	9.35%	0.53	6.02%	9.61%	
Multistrategy	10%	1.60%	0.15	0.20	1.78%	4.20%	3.00%	4.61%	0.65	6.38%	6.24%	
Hedge Fund Portfolio	100%	1.60%	0.16	0.22	1.60%	4.57%	3.65%	3.42%	1.07	6.85%	5.73%	

Hedge fund expected return equals 6.85% for a diversified portfolio of approximately 20 hedge funds.

Hedge Fund Actual over Last 5 Years (Cliffwater Model Portfolio)

Actual hedge fund performance for Cliffwater's model portfolio equals 8.85% over the last 5 years with a 1.07 information ratio.

Cliffwater Hedge Fund Model Performance Attribution: 5 Years ending Sept 30, 2014*											
	1	2	3		4	5	6	7	8	9	10
				В	eta*			Alpha	Libor+Beta+Alpha		
	Model		Equity	Credit	Beta	Beta	Alpha	Alpha	Info	Total	Total
Strategy	Weights	Libor	Beta*	Beta**	Return	Risk	Return	Risk	Ratio	Return	Risk
Market Neutral	5%	0.32%	-0.12	0.14	-0.31%	1.48%	2.42%	1.66%	1.45	2.34%	2.22%
Credit/Distressed	15%	0.32%	0.03	0.65	4.29%	2.75%	3.84%	2.24%	1.71	8.68%	3.54%
Event Driven	21%	0.32%	0.29	0.52	6.04%	5.73%	2.91%	3.31%	0.88	9.59%	6.61%
Equity Long/Short	29%	0.32%	0.36	0.35	5.66%	6.21%	0.29%	2.86%	0.10	6.42%	6.83%
Macro-Discretionary	11%	0.32%	0.12	-0.08	0.70%	1.64%	3.72%	3.84%	0.97	4.86%	4.17%
Macro-Systematic	5%	0.32%	0.22	-0.58	-1.45%	2.42%	4.71%	10.07%	0.47	3.30%	10.35%
Multistrategy	15%	0.32%	0.11	0.41	3.63%	2.91%	2.62%	1.92%	1.36	6.74%	3.48%
CW Model Portfolio	100%	0.32%	0.20	0.34	4.05%	3.91%	2.28%	2.14%	1.07	6.86%	4.45%

^{*} MSCI World Equity Index

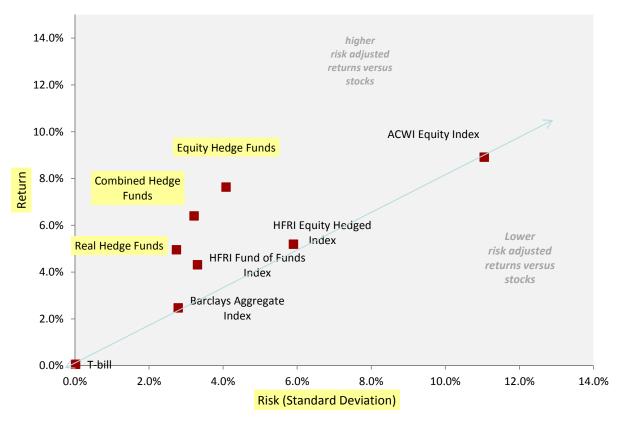
^{**} S&P/LSTA Leveraged Loan Index

How has it Performed – Risk and Return Since Inception

Rhode Island hedge fund portfolios outperformed HFRI FOF Index over the 46 month period from inception (6.40% versus 4.31%, respectively) and had significantly better risk-adjusted returns

Both the RI Equity hedge funds (7.63% return) and the Real Return hedge funds (4.95% return) earned returns above their respective benchmarks (HFRI Equity Hedged Index and HFRI Fund of Funds Index, respectively) and at a lower level of risk.

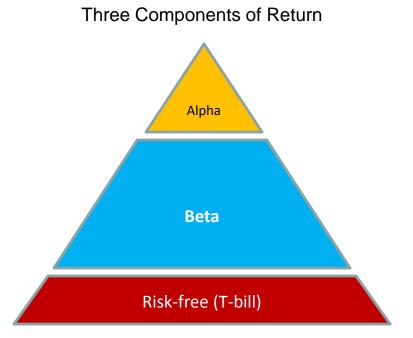
Return and Risk (Standard Deviation) (Nov 1, 2011 to Aug 31, 2015)



Understanding Performance

All assets have three return components:

- Risk-free return: all assets are priced to earn at least the risk free return (T-bill)
- Beta return: markets themselves generate investor returns to reward risk taking. These returns can be accessed at little to no fee through index funds and **ETFs**
- Alpha return: active managers try to produce excess return but often competition and fees get in their way



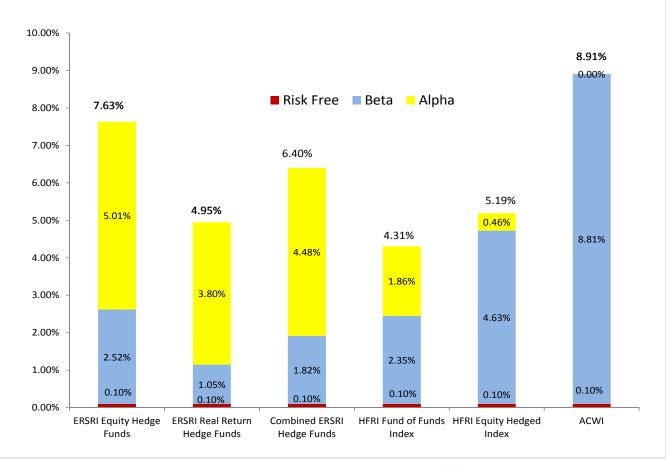
Rhode Island Hedge Fund Return Attribution into Alpha, Beta, and Risk Free

Rhode Island hedge funds combined earned alpha equal to 4.48%, which exceeds Cliffwater's expected combined alpha of 3.75%

The equity beta for the Equity Hedge Fund portfolio equaled 0.26 over the period, well below the 0.51 average beta for equity hedge funds. The Real Return Hedge Fund portfolio had a beta of 0.11 over this period.

Both the Equity and Real Return portfolios produced strong alpha of 5.02% and 3.80%, respectively.

Annualized Returns: November 2011 to August 2015



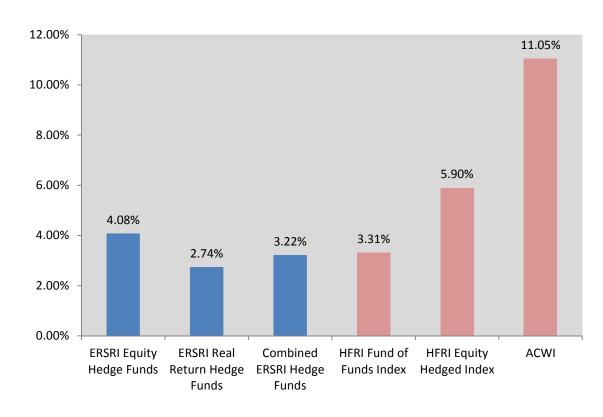
Rhode Island Hedge Fund Risk

Rhode Island hedge funds combined have generated an annualized risk (standard deviation) 3.22% since inception versus 3.31% for the HFRI Fund of Funds Index

The Equity Hedge Fund portfolio's risk has been 4.08% versus 5.90% for the HFRI Equity Hedge Index and 11.05% for ACWI.

The Real Return portfolio's risk has been 2.74%.

Annualized Standard Deviation: November 2011 to August 2015



ERSRI Hedge Fund Performance as of August 31, 2015

					Returns				Sharp
Fund	Market Value	Actual %	Aug	YTD	1 Year	3 Year	Incep	Std Dev	Ratio
Global Equities									
Ascend ERSRI Fund LP	73,278,324	6.4%	-0.76%	2.21%	3.41%	6.17%	5.35%	2.61%	1.89
Davidson Kempner Institutional Partners, L.P.	75,517,546	6.6%	-0.56%	1.58%	0.32%	6.20%	6.18%	2.15%	2.66
Elliott Associates, L.P.	85,201,100	7.5%	0.50%	3.55%	7.17%	10.35%	9.58%	3.35%	2.66
ESG Cross Border Equity Fund LP	43,516,144	3.8%	-5.60%	-5.90%	-10.63%	-	-10.47%	8.03%	-1.37
Indus Asia Pacific Fund, LP	706,740	0.1%	-2.98%	-4.91%	-16.75%	-4.59%	-3.04%	6.66%	-0.48
Luxor Capital Partners, LP	42,387,764	3.7%	-6.54%	-4.73%	-13.19%	-	-11.65%	10.29%	-1.17
PFM Diversified Fund, L.P.	83,645,857	7.3%	-2.16%	9.36%	12.50%	13.81%	10.18%	8.94%	1.10
Samlyn Onshore Fund, L.P.	111,691,397	9.8%	-3.19%	3.54%	9.81%	12.33%	11.35%	5.89%	1.81
Viking Global Equities, LP	101,404,209	8.9%	-2.10%	7.35%	13.09%	15.40%	15.02%	5.87%	2.37
Total Global Equities	617,349,081	54.1%	-2.19%	3.14%	3.42%	8.75%	7.63%	4.08%	1.75
MSCI AC World Index Free - Net			-6.86%	-3.54%	-6.29%	9.40%	8.91%	11.05%	0.80
Russell 3000 Index (DRI)			-6.04%	-2.61%	0.36%	14.63%	15.09%	9.94%	1.44
HFRI Equity Hedge (Total) Index			-2.62%	0.07%	-1.95%	6.53%	5.19%	5.90%	0.83
Real Return									
BlueCrest Capital LP	506,906	0.0%	0.00%	-2.76%	-2.91%	-0.92%	0.37%	4.16%	0.04
Brevan Howard LP	80,713,581	7.1%	-0.98%	0.95%	4.10%	2.22%	1.93%	5.13%	0.34
Brigade Leveraged Capital Structures Fund LP	55,393,909	4.9%	-2.54%	-0.84%	-5.39%	2.54%	2.97%	4.06%	0.67
Capula Global Relative Value Fund Ltd.	61,617,673	5.4%	1.19%	5.66%	9.52%	7.26%	5.73%	2.03%	2.59
Claren Road Credit Fund, Ltd.	42,829,092	3.8%	0.89%	-6.24%	-17.14%	-	-6.20%	7.93%	-0.80
DE Shaw Composite Fund LLC	86,115,594	7.6%			15.87%	17.11%	15.24%	4.43%	3.16
Graham Absolute Return Trading Ltd.	55,660,326	4.9%	-2.24%	0.27%	5.08%	3.13%	2.97%	4.37%	0.62
OZ Domestic Partners II, L.P.	104,471,103	9.2%	-2.87%	1.85%	4.98%	9.12%	9.03%	4.00%	2.11
Winton Futures Fund Limited	35,776,313	3.1%	-4.30%	-2.04%	8.77%	6.00%	4.81%	8.80%	0.54
Total Real Return	523,084,496	45.9%	-1.23%	1.76%	3.43%	5.47%	4.95%	2.74%	1.67
ML 3-month T-Bills			0.02%	0.02%	0.03%	0.06%	0.06%	0.02%	-
HFRI Fund of Funds Composite Index			-1.69%	1.16%	1.92%	5.20%	4.31%	3.31%	1.20
Fotal Hedge Fund Portfolio	1,140,433,577	100.0%	-1.75%	2.48%	3.38%	7.22%	6.40%	3.22%	1.85
HFRI Fund of Funds Composite Index			-1.69%	1.16%	1.92%	5.20%	4.31%	3.31%	1.20

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